Nova Scotia Commission

On Drug Dependency

THE EFFECTS OF PEER EDUCATION

Brigitte Neumann, M.A.
Coordinator of Research
N.S. Commission On Drug Dependency
Suite 314, Lord Nelson Bldg.
5675 Spring Garden Road
HALIFAX, Nova Scotia
B3J 1H1 (902) 424-4270

Edwin G. Belzer, Ph.D.
Health Education Division
School of Recreation, Physical
& Health Education
Dalhousie University
HALIFAX, Nova Scotia
B3H 3J5 (902) 424-2152

April, 1985

Table of Contents

Acknowledgments i

Executive Summary ii

Chapter I. Peer Education Within The Community Outreach Program 1.1

History and Development of the Community Outreach Program . . . 1.2

Environment and Population 1.4

The Peer Education Program 1.4

Responses to Peer Education 1.8

Evaluation Research and Peer Education 1.11

Chapter II. Effects on Peer Educators 2.1

Methodology 2.1

Results 2.4

Discussion 2.9

Conclusion 2.12

Chapter III. Effects of Peer Education on Grade 7 Students 3.1

Methodology 3.1

Results 3.2

Discussion 3.10

Chapter IV. Conclusions and Recommendations 4.1

References 5.1

Acknowledgments

The authors express their sincere thanks to Gerri Penney-Sharrow, School Services Representative, and to Brian Wilbur, Coordinator of Youth and School Services of the Nova Scotia Commission on Drug Dependency. They gave willingly of their time and energy to cooperate fully in the conduct of this evaluation.

Jill Commolli, Master's candidate in the Health Education Division, School of Recreation, Physical and Health Education at Dalhousie University, worked with us in designing the research and played a key role in the data collection. Our thanks and good wishes for thesis completion go out to her!

Last, but not least, we thank the principals, teachers and students who participated in the project.

Executive Summary

In 1982, the Nova Scotia Commission on Drug Dependency proposed the implementation of a Community Outreach Program within the Halifax West High School and its junior high feeder schools to the Halifax City School Board. The program had three phases:

- The peer education phase works with students to develop and implement a peer education program on alcohol and other drugs.
- The parent education phase works with parents, by delivering an educational program on effective communication within the family about potential or established drug use.
- The early intervention phase works with youth, the school system, and appropriate community agencies to implement a referral system of early intervention for students becoming harmfully involved with drugs.

This report presents the results of the peer education component of the Community Outreach Program.

Peer drug education refers to the delivery of such programs by trained young people to their peers or, more commonly, juniors. In this program senior high school students were trained to deliver the 5 lesson plans comprising Choosing About Using (Thompson, 1983) to all the Grade 7 classes in Halifax West's feeder schools.

Peer educators were generally recruited through the D.E.C.I.D.E. Club operated by the School Services Representative and a teacher advisor in the high school. The club offers any high school student the opportunity to learn correct information about alcohol and other drugs. Members also participate in other activities such as Drug Awareness Week.

In 1984, 11 peer educators taught the 5 lesson plans to the 18 Grade 7 classes in the feeder schools, reaching about 300 Grade 7 students.

Community response to peer education was overwhelmingly positive. Such programs are now being implemented in half of the Province's School Boards.

Junior high school teachers whose students receive the program express continued interest in it. Many of these teachers develop their own additional curriculum packages to supplement peer education, thus achieving a greater degree of integration of drug education in the regular school curriculum. Finally, the peer education experience has led one junior high school to propose the extension of the concept to elementary schools. In this project, junior high school students would themselves be trained as peer educators, to deliver suitably adapted material to Grade 4, 5, or 6 classes.

The peer education approach had positive effects on the high school involved as well. Teachers consistently comment on increased maturity exhibited by peer educators after their teaching experience. Curriculum units on alcohol and other drug concerns have been integrated into a variety of subjects. The D.E.C.I.D.E. Club has participated in Drug Awareness Week, had special speakers arranged by teachers and distributed information at parent-teacher nights. Teachers have requested specific after-school seminars to enhance their professional skills in drug-related matters.

The peer education program has generated additional activity in drug education within schools. One innovative strategy for meeting the additional service demands generated is the development of Community Outreach Team Training. Through this program, volunteer teachers commit themselves for at least two years to act as school resources on drug education and to develop and implement action plans for their own schools. The program is attracting significant numbers of teachers and other educators; for example, the Community Outreach Team at Halifax West already numbers thirteen.

The peer education program did succeed in extending awareness of drug education issues and increasing related activities considerably in the pilot schools. Because of the program's far-reaching implications for the

prevention and education programs of the Commission on Drug Dependency, evaluative research oriented to the following questions was also carried out: "Did peer education succeed in initiating favourable changes in peer educators and receivers of peer education programs? To what extent were specific educational objectives of the program met?"

The specific outcomes desired for peer educators were: increased drug knowledge; improvement in oral presentation and classroom management skills; enhanced self-esteem; and improved decision-making skills vis-à-vis drug use. A quasi-experimental design was used, with pre-training pre-test and post-teaching post-test for the 11 peer educators and a comparison group from two other urban high schools. The comparison groups was matched for age, grade and sex of peer educators.

A questionnaire to measure drug knowledge and oral presentation skills was developed. Self-esteem was measured by the Coopersmith Self-Esteem Inventory. The concept of "improved decision-making skills" was more difficult to operationalize. In the end, the behavioral intentions of students vis-à-vis tobacco, alcohol and cannabis use were accepted as the measurable outcomes of the decision-making process.

The results indicated that peer educators' knowledge about drugs and the implications of using them does improve as a result of the program. Self-esteem, however, was not affected. It may be the case that being a peer educator does enhance self-confidence and give a sense of accomplishment without affecting the more stable personality trait of self-esteem.

Peer educators did not change their intentions to use tobacco, alcohol or cannabis at various frequencies and in various circumstances. A wide variation in drug use intentions by peer educators was observed. Intended frequencies were highest for cigarette smoking. Alcohol use intentions reflect the average respondent's intention to be a "social drinker".

Intentions to use marijuana with close friends remained at an average frequency of once or twice a year. While the program did not alter decisions about future use, it probably reinforced the decision to maintain a low level of use.

Turning to the effects of peer education on the Grade 7's, two stated program objectives were investigated: first, to increase drug knowledge; secondly, to improve decision-making skills. Again students' behavioral intentions to use or not use tobacco, alcohol and cannabis with various frequencies in various situations formed the measure of decision-making skills.

The questionnaire was administered before and after the peer education program to 265 Grade 7's receiving the program and to a comparison group of 183 Grade 7's in other city schools judged to be most similar to the Halifax West feeder schools. Students were eligible to participate in the evaluation only with written parental consent, which was readily provided by the vast majority of parents.

The peer education program delivered to Grade 7 students was clearly successful in meeting the first of its objectives; namely, to improve drug knowledge. However, the post-test score of 8.9 out of a possible 16, indicates further room for improvement which is most likely to come about as a result of further drug education efforts in later grades.

Insofar as more accurate information supports effective decision-making, that objective was achieved as well. Also, there are some indications that the program has some effect in maintaining low-frequency use or abstinence intentions among the experimental Grade 7's. The comparison group had pre-test to post-test increases in overall intentions to use alcohol; in average frequency of intended alcohol use; and in average frequency of marijuana use. The peer education program suppressed this re-test effect in the experimental group, supporting the conclusion that the program reinforces low-frequency

use or abstinence intentions.

The report concludes with a list of seven recommendations:

Recommendation 1

The current practice of having peer educators about 3 years older than their audience should be continued. A small age gap produces too many difficulties in maintaining classroom order.

Recommendation 2

An additional "outreach" component could readily be added to the peer education program by sending a letter explaining the program home with the program recipients. In the program evaluated here, parents did receive notification becuase informed consent to the evaluation questionnaire was needed. Making an explanatory letter to parents part of the program could act to encourage further communication between parent and child.

Recommendation 3

The high level of interest and involvement by schools in peer education should be used to further encourage the development of drug education in later grades. The concept that drug education is not a "one-shot deal" but a continuing process could be central to this effort and is supported by the findings of this report.

Recommendation 4

The feasibility and effectiveness of drug education programs in elementary schools should be investigated. The results of this evaluation indicate that many students in Grade 7 have already decided to become alcohol users at a very early age. Earlier prevention efforts with elementary school children and their parents may be useful in encouraging a delay in the onset of drinking alcohol.

Recommendation 4

The feasibility and effectiveness of drug education programs in elementary schools should be investigated. The results of this evaluation indicate that many students in Grade 7 have already decided to become alcohol users at a very early age. Earlier prevention efforts with elementary school children and their parents may be useful in encouraging a delay in the onset of drinking alcohol.

Recommendation 5

Further drug education programming should occur within an overall strategy that will assist in the clarification of desired, expected outcomes. The concept of decision-making skills is, by itself, insufficient to accomplish this.

Recommendation 6

The majority of Grade 7's intend to drink at least sometimes in their next year. Since drinking with parents on special occasions is a significant component of these intentions, we recommend that the parent education phase address the issue, with a view to encouraging the delay of onset of alcohol use by adolescents.

Recommendation 7

Because of the many positive spin-off effects of the current peer drug education program and its capacity to increase drug knowledge and to reinforce abstinence or "low-frequency use", such programs should be continued. Revisions of the decision-making skill" objective to enhance program clarity would be the first step in maintaining a developmental, formative stance toward the program and encouraging further amelioration.

I

PEER EDUCATION WITHIN THE COMMUNITY OUTREACH PROGRAM

Since the late 60's and early 70's, the problem of alcohol and other drug use among adolescents has continued to be a major public concern. One result has been a variety of efforts in drug education, with peer education approaches initiated in the early 1970's.

Peer drug education refers to the delivery of such programs by trained young people to their peers or, more commonly, juniors. For example, high school students may be trained to deliver drug education to junior high school students. The role of peer educator is to provide information about drugs and to teach strategy and tactics for handling peer pressure and for making "responsible decisions". The peer educator (unlike a peer counsellor) does not provide personal advice; neither does he or she advocate a particular stance for or against drug use per se.

This report describes and evaluates the peer drug education component of the Community Outreach Program operated by the Nova Scotia Commission on Drug Dependency. The history and development of the Community Outreach Program is discussed below, along with a description of the catchment area. The report then describes the peer education component in more detail, and gives an overview of the positive community responses to it.

Subsequent chapters of the report give the more formal evaluation results: first, the effects of being a peer educator are presented; the effects of peer education on the Grade 7 students involved follow. The report ends with conclusions and recommendations.

History and Development of the Community Outreach Program

The Drug Dependency Act (R.S.N.S. 1972, Ch. 3) specifies that the Nova Scotia Commission on Drug Dependency may:

> "promote new kinds of activities and services relating to drug dependency to be operated by or under the departments or agencies of Government ... Programs conducted, directed or promoted by the Commission dealing with or related to drug dependency may include: ... the experimentation in methods of education, prevention, treatment and rehabilitation regarding drug dependency."

The Commission has always been concerned with the development of prevention programs. The major endeavour has been community-based programs to strengthen the personal skills of the individual, thereby strengthening the community. Eight years ago, the Commission initiated services to the schools of the province. Schools have provided a focal point for program delivery.

A further step in the development of prevention services was the establishment of the Community Outreach Program. This concept was developed by the Commission on Drug Dependency in consultation with the Department of Education and various school board staff.

The Community Outreach Program's major goal was to provide accurate information about alcohol and other drugs and to promote communication and responsible decision making toward a healthy lifestyle.

Parents and students within the high school and the junior high schools were the target groups for specific educational activities. The Community Outreach Program had three components, or phases, each with its own objectives:

> The peer education phase works with students to develop and implement a peer education program on alcohol and other drugs.
>
> The parent education phase works with parents, by delivering an educational program on effective communication within the family about potential or established drug use.
>
> The early intervention phase works with youth, the school system, and appropriate community agencies to implement a referral system of early intervention for students becoming harmfully involved with drugs.

Selection of a pilot community and a suitable method of program delivery were key planning concerns.

A School Services Representative was assigned to provide prevention services tc one high school and its junior high feeder schools. Criteria for the selection of a pilot school were developed by an interdepartmental committee of the Nova Scotia Commission on Drug Dependency and the Nova Scotia Department of Education. The selection criteria for the pilot school were:

- A mix of social/economic conditions;
- A non or minimal busing area;
- A strong school support system (guidance and social workers);
- Easy access to NSCDD outpatient treatment facilities;
- A strong community support system;
- A community recreation system;
- A school population which has not been labelled as having a "drug" problem;
- Proximity to the central office of the NSCDD.

The community selected surrounds Halifax West High School. Under the jurisdiction of the Halifax District School Board, the area includes the following schools:

Halifax West High School
Clayton Park Junior High
Fairview Junior High
Grosvenor-Wentworth Junior High
Major Stevens-Springvale
Rockingham Junior High

Elementary Schools:

Burton-Ettinger
Clarence A. Beckett
Duke D'Anville
Fairview Heights
Grosvenor-Wentworth
Major Stevens-Springvale
Rockingham
Titus Smith

Environment and Population

Review of census data demonstrates that the catchment area of Halifax West and its feeder schools is typical of the City of Halifax. For example, the age composition of the area roughly approximates that of Halifax as a whole, although children up to 14 are slightly under-represented while middle-aged adults (45-64) years are slightly over-represented. (See Table 1). The total population of the catchment area in 1981 was 31,477. There were 5,650 children up to 14 years of age and 3,050 persons aged 15-19.

The catchment area contained 11,340 private dwellings, 42% owner-occupied. In comparison to the rest of Halifax, where about 56% of dwellings are owner-occupied, the Halifax West area has more rental accomodation. Low-rise apartment buildings make up 32% of the residences in Halifax West, compared to 21% in Halifax as a whole.

The average household size in Halifax West was 2.8 in 1981, compared to 2.9 in the entire city. Similarly, average family size in Halifax West was just slightly below that of the entire city: 3.1 versus 3.2. As well, the proportion of lone-parent families in Halifax West was 13.2% of all families; the corresponding city figure was 12.9%. On the basis of these data, it appears that the choice of Halifax West to operate a pilot program was a good one, in that it is fairly representative of the city as a whole.

The Peer Education Program

The peer educators used in the peer education program are high school students. Those receiving peer education are junior high school students; specifically, the Grade 7,s in all the feeder schools to the high school.

In order to develop a pool of potential peer educators, the School Services Representative initiated an extra-curricular activity known as

Table 1

Age Distribution: Halifax West and Halifax, 1981

Age	Halifax West N	Halifax West %	Halifax N	Halifax %
0-14 years	5650	18.0	61920	22.3
15-19 years	3050	9.7	26820	9.7
20-44 years	13655	43.3	118790	42.7
45-64 years	6535	20.8	48220	17.4
65+ years	2575	8.2	21970	7.9
TOTAL	31475	100.0	277720	100.0

the D.E.C.I.D.E. Club* in the high school. There are no specific membership criteria and attendance at the weekly meetings, organized by the School Services Representative and a teacher advisor, fluctuates considerably from 2 to 50 with an average attendance of about 12. At their meetings, D.E.C.I.D.E. Club attenders learn correct information about alcohol and other drugs and may participate in other projects, such as Drug Awareness Week. The D.E.C.I.D.E. Club, then, fills a number of positive functions: it allows participation in drug education by any interested student; it keeps drug education visible throughout the school year; it forms a focus for additional projects such as Drug Awareness Week and Safe Grad/Safe Summer. Finally, from its regular members, peer educators can be recruited.

A number of criteria are used in selecting peer educators from a pool of applicants. Four items are used in the selection process: the peer educator's application form; their interview with the School Services Representative and teacher advisor; their teacher reference; and their term marks.

The Peer Coordinator's Manual in Choosing About Using (Thompson, 1983) discussed some of the desirable qualities of peer educators:

> "Good peer educators are not just top academic students, nor are they always the ones involved in other school activities. Many students may have too many other commitments to afford the time to train as peer educators, or they may not wish to volunteer.
>
> Peer educators must possess leadership qualities and must be able to communicate in the classroom. Those students with poor grades or who have had past involvement with drugs may have leadership abilities not immediately evident. However, peer educators must show responsible and law abiding behavior towards alcohol and other drugs, especially when representing the school." (p.3)

In addition, peer educators must accept their role as information givers. They are not to advise students or to promote their personal opinions. As well, they must agree to undertake all the work involved in the peer education program, as well as keeping up with all everyday

*Discover an Effective Club in Drug Education

classwork, any tests, assignments and projects.

Those students selected to be peer educators participate in a residential weekend training event. The peer educators are trained to deliver the five lesson plans in Choosing About Using. They learn how to manage a classroom, how to field questions, how to work as a team and how to speak in front of a class. Peer educators have the opportunity to view their public speaking exercises on videotape, and to identify and correct nervous mannerisms, voice levels, etc. Such exercises build the peer educators' confidence as well as teaching them the material they must cover in class.

Peer educators deliver the five lesson plans in teams of two to each of the Grade 7 classes in the feeder schools during a one-week period. Class times are determined in consultation with principals. To promote a positive receiption by the Grade 7 students, every effort is made to ensure that the peer educators do not replace the extremely popular classes such as Physical Education, Music or Industrial Arts. In 1984, 5 teams of peer educators taught the 5 lesson plans to the eighteen Grade 7 classes in the feeder schools, reaching about 300 Grade 7 students.

The resource material for the peer education program is the manual, Choosing About Using (Thompson, 1983). The material was developed through Youth and School Services of the Nova Scotia Commission on Drug Dependency with funding assistance from Health & Welfare Canada. Manuals for Peer Coordinators and Peer Educators precede the five lesson plans. The first lesson deals with facts and myths about alcohol. Other mood-modifying drugs are covered on the second day. Decision-making about drugs is the focus of the third lesson and alternatives to drug use, including the management of peer pressure, are covered next. The fifth and final 40-minute session is devoted to review.

In the intial peer education effort in the Halifax West area, the selected target group consisted of Grade 9 students, not Grade 7's. Another important reason for the change to a lower grade was that the peer educators had difficulty in keeping reasonable classroom order. Thus, while peer education programs rest on the belief that younger people interact well with each other and are credible message sources, experience indicates that peer educators should be at least three years older than those they are sent to teach. There may, of course, be some exceptions to this rule-of-thumb in speciai circumstances; for example, at one time, Halifax West Grade 12's requested that the peer educators teach them, with no consequent difficulties. Unless peer educators have some seniority over their students, however, classroom order tends to be too difficult an issue.

Another reason for the selection of Grade 7's as opposed to Grade 9's for the peer education program was that teachers felt that Grade 9 was too late to introduce drug education. By Grade 7, and perhaps even earlier, students must already make decisions about their use of alcohol, tobacco and other drugs.

Finally, the program staff wanted to take advantage of junior high school students' tendency to admire and look up to high school students, putting the latter in the position of being positive role models.

Responses to Peer Education

Community response to peer education has been overwhelmingly positive. Such programs are now being implemented in half of the Province's School Boards and it appears that further expansion would be limited only by supply of personnel resources rather than by declining demand. Meeting the continuing demand has resulted in several innovative strategies to be discussed later in this section.

Junior high school teachers whose students received the peer education

program express strong interest in it. It was in large part their recommendation that the program be delivered to Grade 7 rather than Grade 9 students. The Grade 7 teachers strongly support the continuation of the program in future years. Most significantly, the peer education program has led many of these teachers to develop their own additional curriculum packages to supplement peer education, thus achieving a greater degree of integration of drug education in the regular school curriculum.

Finally, the peer education experience has led one junior high school to propose the extension of the concept to elementary schools. In this project, junior high school students would themselves be trained as peer educators, to deliver suitably adapted material to Grade 4, 5, or 6 classes.

The peer education approach has had positive effects on the high school involved as well. Teachers with peer educators in their classes consistently comment on increased student maturity after the peer education experience. At the high school level, curriculum units on alcohol and other drug concerns have been integrated into subjects such as Human Relations, Mathematics, Chemistry, Driver's Education, Sociology and Law, and English. As a result of the D.E.C.I.D.E. Club, there has been participation in Drug Awareness Week, special speakers arranged by teachers, and information distributed at parent-teacher nights. Significantly, teachers have requested specific after-school seminars to enhance their professional skills in drug-related matters.

Peer educators themselves thoroughly enjoy the challenge of their teaching experience. They cite such benefits as learning more about alcohol and other drugs, becoming more confident about public speaking, and feeling a great sense of accomplishment. Peer educators have become great spokesmen and spokeswomen for the program. At the Canadian Addictions Foundation Conference in May, 1984, peer educators taught a sample lesson plan to

Grade 8's. Peer educators have also appeared on a number of television and radio programs to publicize their efforts, as well as receiving newspaper coverage. Finally, Halifax West may attend a provincial rally of peer educators in the coming year and the concept of a special Local Committee on Drug Dependency is under investigation. Such a committee would consist of "alumni" peer educators, allowing ongoing utilization of their skills in a variety of community prevention and education projects.

The Grade 7's on the receiving end respond positively to several features of the peer education program. First, they find the information itself of interest. Secondly, there are many positive comments about the ease of talking about drug issues to the peer educators. Thirdly, students enjoy the relative novelty of the program and its delivery. While classroom order and management are generally not a problem, there have been one or two instances of difficulty where the support of teachers was requested. The importance of training in this area is thus confirmed.

Overall, then, the peer education program has had many positive effects in generating additional interest and activity in drug education within schools. One innovative strategy for meeting the additional service demands generated is the development of Community Outreach Team Training. Through this program, volunteer teachers commit themselves for at least two years to act as school resources on drug education and to develop and implement action plans for their own schools. The training program is a 36-hour course developed by Youth and School Services of the Commission on Drug Dependency. This program is attracting significant numbers of teachers; for example, the Community Outreach Team at Halifax West already includes 13 educators. The Community Outreach Teams make other teaching staff more aware of resources in drug education, provide in-service training to their colleagues, display

curriculum units on drug education in various subject areas, and assist in developing drug policies for schools.

Peer education has stimulated interest in and demand for drug education. The program has succeeded in generating increased taking of responsibility for drug programming by schools, thus meeting a central objective of the Community Outreach Program.

Evaluation Research and Peer Education

The peer education program did succeed in extending awareness of drug education issues and increasing related activities considerably in the pilot school system. Because of the importance of this program and its far-reaching implications for the prevention and education programs of the Commission on Drug Dependency, resources were also committed to carry out evaluative research oriented to the following questions: "Did peer education succeed in initiating favorable changes in peer educators and receivers of the peer education program? To what extent were specific educational objectives of the program met?"

The next two chapters of this report address these questions. Chapter 2 reports results for peer educators. Chapter 3 reports results for the Grade 7 students.

II

EFFECTS ON PEER EDUCATORS

The evaluative research on the peer education program was to determine to what extent intended outcomes were achieved with peer educators on the one hand and with the Grade 7 receivers of peer education on the other hand. This chapter reports effects on peer educators.

In consultation with program staff, four desired outcomes were specified for peer educators. First, peer educators were to show higher levels of drug knowledge as a result of their training and teaching experience. Secondly, peer educators were to show improvement in oral presentation and classroom management skills. Thirdly, it was expected that peer educators would have enhanced self-esteem after their experience. Finally, peer educators were to demonstrate "improved decision-making skills" vis-à-vis drug use.

Methodology

The design used in the evaluation of the peer educator component was quais-experimental, with pre-training pre-test and post-teaching post-test for the 11 peer educators and a matched comparison group from two other urban high schools. Matching was done for age, grade and sex of peer educators. Grade levels and sex (10 females, 1 male) in the peer educator and comparison groups were identical. Mean ages of the peer educator and comparison groups was 17.8 years (σ = 1.1) and 17.7 years (σ = 11.3) respectively. It is of interest that the peer educators tend to be mostly girls.

Four dependent variables were identified for investigation: drug knowledge, oral presentation skills, self-esteem and decision-making skills measured by behavioral intentions to use drugs.

Drug knowledge. The drug knowledge scale consisted of 16 items, tailored quite specifically to the content of the peer educator training. Items on drugs other than alcohol and about general principles of drug action were drawn from Swisher and Horan's (1973) Pennsylvania State Drug Knowledge Scale. Alcohol questions included items requiring knowledge about the equivalence of beer, wine and whiskey: the .08 legal limit for blood alcohol levels in drivers; avoiding intoxication by limiting intake; etc. Items were screened by program staff to ensure that material in them was actually taught in the course and to ensure that there was complete agreement on "correct answers".

Oral presentation skills. A variety of options was considered to measure this variable. For example, observers might have been placed in classrooms to rate peer educator performance, and video-tapes were considered. However, direct observations and video-taping would have been too intrusive, and the inevitable concerns about rater reliability would have presented an additional problem. Therefore a knowledge test tailored to the peer educator training program was constructed.

Obviously, this approach has limits. For example, although a peer educator may be able to select from several printed descriptions the one which experienced teachers agree is the best way to handle a classroom disturbance, we cannot guarantee that she or he will be able to cope with an actual classroom disturbance. Nevertheless, specific knowledge gains in this area were considered to be the closest approximation possible to a direct measure.

Items were constructed in consultation with peer educator trainers, and, again, there was complete agreement on which of the multiple-choices

for each item constituted the correct answer.

Self-esteem. The short version of Coopersmith's Self-Esteem Inventory (Robinson and Shaver, 1973) was used. Developed for children originally, it has been used with other age groups. As well, it has the advantage of clarity and brevity over other instruments for the measurement of self-esteem. Test-retest reliability for the longer form is reported at .88 and split-half reliability is .90. While the validity studies for the scale are inconclusive, we decided that the Coopersmith scale was the best available to us.

Decision-Making Skills as Behavioral Intentions. The concept of "improved decision-making skills" proved more difficult to operationalize. Decision-making in the context of drug education may be considered to improve simply through an increase in knowledge, since decisions based on correct information are presumably superior to those based on incorrect information. However, review of program material and intensive discussion with program staff indicated that additional factors are intended in the concept of decision-making. What we needed was a suitable "decision-making model" that would decompose the process involved into measurable components. Ajzen and Fishbein's (1980) Theory of Reasoned Action provided such a framework.

The model proposed by Ajzen and Fishbein sees behavior as most immediately determined by intentions. People generally do what they intend to do. Intentions in turn are predictable on the basis of attitudes - the evaluation of any psychological object - which in turn are predicted from cognitive components; beliefs about consequences, for example, or in our case, drug knowledge. The other set of factors influencing behavioral intentions are subjective norms - what the individual believes about

significant others' attitudes and how important this is to him or her (motivation to comply).

The Ajzen-Fishbein model, then, decomposes what decision-making involves and allowed the construction of a questionnaire to measure the end result; namely, behavioral intentions.

In a preliminary version of the questionnaire, students were asked to state their intentions about the use of cigarettes, alcohol, marijuana, tranquillizers, and LSD. Peer educators' pre-tests indicated that the preliminary questionnaire was too long and excessively tedious to complete. Therefore, the final version asked only about students' intentions to use tobacco, alcohol and marijuana. The items conformed to Ajzen and Fishbein's format. For each substance, respondents were asked to indicate the frequency with which they planned to use the substance during the next 12 months in four situations: "in general", when they were by themselves, when they were with friends, and when they were with their parents.[1] For analysis purposes, frequencies checked were recoded into estimates of true frequencies: thus, "never" equals 0 and "every day or two" equals 274.

The questionnaires were administered to the peer educators and comparison groups by the authors, who had no other contact with the respondents.

Data were analyzed using SPSS.

Results

With respect to drug knowledge, the groups were significantly different at the outset, with the peer educators answering correctly an average of 2.9 (33%) more items than the comparison group (Table 2). This is probably due to the previous participation in the D.E.C.I.D.E. Club by the peer educator group. The comparison group members had not participated

[1] We did not ask students how frequently they expect to smoke marijuana with their parents.

Table 2

Drug Knowledge Test

16 Items

Mean Scores

Group	Pre-test		Post-test
Peer Educators (n = 11)	11.6	*	12.8
Comparison Group (n = 11)	8.7		9.1
		*	$p \leq .05$

in a D.E.C.I.D.E. Club.

Despite their starting out closer to the ceiling, the peer educators significantly increased their drug knowledge scores at post-test, averaging 1.2 (10%) more correct responses, whereas the comparison group's pre and post-test scores were not significantly different. Thus, the already significant difference between the groups had grown still greater by post-test time. The peer educator's 3.7 item higher mean score at post-test represented a 41% superiority in performance on the 16-item test.

Analysis of the groups' performances on the 19-item multiple choice-pre-test of knowledge concerning oral presentation and classroom management skills gave us no reason to think they differed at the outset (Table 3). This was not surprising, despite the peer educators' superior pre-test scores on the drug knowledge test. Their participation in the D.E.C.I.D.E. Club had not exposed them to formal instruction about how to manage a classroom, speak before a class, etc. It had exposed them to instruction only concerning drugs and their effects.

Because both groups' scores on the post-test were significantly improved, we attribute some of the peer educators' improvement simply to their previous experience with the test itself. However, their 3.5 item (48%) superiority over the comparison group at post-test reflected a relatively larger gain over their pre-test performance. Their scores rose by an average of 3.7 items (40%), compared to a rise of only 10% in the comparison group's scores.

The groups did not differ significantly at pre and post-test in their Coopersmith Self Esteem Inventory scores, and they did not change significantly over the course of the study (Table 4).

Table 3

Knowledge of
Oral Presentation and Classroom Management Skills
19 Items - Mean Scores

Group	Pre-test	Post-test
Peer Educators (n = 11)	9.2 —— * ——	12.9
Comparison Group (n = 11)	7.6 —— * ——	8.4

* $p \leq .05$

Table 4

Coopersmith Self-Esteem Inventory
25 items - Mean Scores

Group	Pre-test	Post-test
Peer Educators (n = 11)	17.00	17.91
Comparison Group (n = 11)	15.27	15.45
	No significant differences	

Similar analyses were done on the students' responses to items designed to reveal their intentions to smoke cigarettes, to drink alcohol, and to smoke marijuana during the next 12 months in various circumstances. None of the 11 analyses on behavioral intentions indicated a significant difference between groups or between pre and post-tests.

Could it be that peer educators' intended frequencies of use were so low in the first place that reduction was unlikely, if not impossible? Pretest data indicated that such a "floor effect" was not operative in at least some of the hypothetical circumstances with the three drugs. Since there were no significant differences between pre and post-test or between groups, Table 5 shows only the peer educators' intentions at post-test. One point worth noting is that the large standard deviations in intended frequencies of use indicate that the peer educators remained quite diverse in their drug use intentions.

Discussion

Given the popularity of peer education programs since the early 70's, it is surprising how sparse the evaluation literature on such programs remains. We know of no studies that have actually looked at peer educators. Nevertheless, given the ongoing demand for programs of this type, it is important to arrive at a better understanding of how they work. Our own results indicate that, at a minimum, drug knowledge and knowledge about oral presentation skills of peer educators are enhanced through participation.

A recent review of literature on the relationship between self-esteem and health-risking, health-maintaining, and health-enhancing behaviors revealed much confusion regarding the term "self-esteem" (Plath and Belzer, 1985). Some of the confusion results from the fact that "self-esteem" is

Table 5

Intended Frequency of Substance Use
Peer Educator Post-Test
Means and Standard Deviations

Circumstance	Cigarettes	Alcohol	Marijuana
By Myself	124.5 ± 143.1	0 ± 0	0 ± 0
With Close Friends	124.9 ± 142.7	15.1 ± 6.5	2.0 ± 5.4
Parents Present	82.0 ± 125.4	4.7 ± 6.6	N.A.

a commonly used term, as well as a label for variously defined socio-psychological constructs. Generally speaking, self-esteem can be considered as synonymous with "self-worth", "self-respect", and "self-regard". It refers to the person's assessment of the degree to which she or he is capable, significant, successful, worthy, and efficacious.

In contrast to the other the three tests, which were either constructed de novo or modified specifically for this quasi-experimental evaluation, the Coopersmith Self-Esteem Inventory was adopted in its entirety. No one of the self-esteem instruments currently available has been shown to be inherently superior. Breytspraak and George (1979) recommended that a self-esteem test be chosen in light of compatibility with user's theory of self, and with a regard for reasonable expectations of sensitivity under the circumstances of use. Most studies which have showed changed self-esteem were done in clinical, rather than educational settings, and Breytspraak and George's criteria for selections of a self-esteem test seem to be more directly applicable to clinical settings.

Plath and Belzer (1984) clearly indicated a need for more research into the degree to which self-esteem is amenable to amelioration, especially in educational settings. A person's self-esteem is the result of the experiences of her/his entire lifetime. Is it reasonable to expect a relatively brief educational intervention to produce a measurable effect on it?

Those involved in planning and delivering the peer drug education program, as well as the evaluators, thought it was reasonable. Anecdotal evidence such as that provided by teachers and principals as well as program staff suggested that the self-esteem of the previous year's peer educators was enhanced. Nevertheless, our group's average level of self-esteem as measured by the Coopersmith Self-Esteem Inventory did not change.

Reduction in drug use per se was not an objective of the peer education program and, in fact, the peer educators' actual drug use was not investigated. On the other hand, the peer educators' intentions to use substances at various frequencies and in various circumstances was the measure of "improved decision-making skills" consensually arrived at by both program staff and evaluators.

With respect to use of all three substances, we observed a wide variation in drug use intentions by the peer educators. Intended frequencies were highest for cigarette smoking, and cigarette smoking was the only drug use for which there was any intention of use "by myself". This essentially non-social use pattern reflects the nicotine addiction process.

Alcohol use intentions, on the other hand, reflect the average respondent's decisions to be a "social drinker". The knowledge gains made by peer educators did not affect this decision, as illustrated by the lack of difference in pre and post-test and between peer educators and comparison group.

Similarly, intentions to use marijuana with close friends remained at an average frequency of once or twice a year, with wide variance within the group. Again, for a group of moderate and infrequent users, drug knowledge gain did not alter decisions about future use, although it probably reinforced the decision to maintain a low level of use.

Conclusion

One of the positive outcomes of program evaluation is that it can inform us about the kinds of program objectives which can be realistically pursued. With respect to effects on peer educators, it is clear that peer education programs produce good gains in drug knowledge and in the know-how associated with making oral presentations to younger students. It is

probable that these gains enhance self-confidence, although more stable personality factors such as self-esteem remain unaffected.

As well, peer educators remain constant in their intentions to abstain from alcohol and marijuana use, or to use them at moderate to low levels. In other words, peer educators do not appear to revise previously-made decisions about their intended level of drug use. On average, their intended use is of low frequency and they intend to maintain this low level of use. It is quite plausible that the peer education program attracts students who already have made up their minds about what acceptable drug use levels for themselves are and that their further learning does not lead them to revise these decisions.

III

EFFECTS OF PEER EDUCATION ON GRADE 7 STUDENTS

This chapter gives an overview of the effects of the 1984 Halifax West peer education program on the Grade 7 students exposed to the program.

The questionnaire used in the evaluation was designed to address the extent to which the stated program objectives were met. These objectives were:

- To increase drug knowledge among Grade 7's;
- To improve decision-making skills about drug use by Grade 7's.

Methodology

Two groups of Grade 7 students answered the questionnaire. The experimental group consisted of all Grade 7 students receiving the peer education program and having parental consent to participate in the evaluation. The comparison group consisted of Grade 7's in other city schools judged to be most similar to the Halifax West feeder schools. All participants had parental consent to participate in the study.

The pre-tested questionnaires were administered by trained university students on the days immediately before and immediately after the peer education program was delivered to the experimental group. Pre-test and post-test questionnaires were matched and encoded immediately after the post-test completion and all personal identification was then destroyed, ensuring participant anonymity.

Attrition from both experimental and comparison groups was acceptable. The vast majority of parents gave their informed consent to study participation. Several teachers expressed concern about use of student names to link pre-test and post-test questionnaires and one teacher refused class

participation on these grounds. Future efforts might be directed to obviating this issue entirely by using, for example, class register numbers instead of names as the identifiers for the initial link of pre-test and post-test questionnaires.

The final study population consisted of 265 experimental Grade 7's, with a mean age of 13.3 years (σ = .55) and 183 comparison Grade 7's, with a mean age of 13.2 years (σ = .50). Forty-six percent of the experimental group were male, compared to 48.6% of the comparison group. The age-sex distribution of the two groups, then, was very similar.

The questionnaire used with the Grade 7 students consisted of the same drug knowledge items administered to the peer educators and described in the preceding chapter. In keeping with the rationale described in the preceding chapter, the Grade 7's behavioral intentions about tobacco, alcohol and cannabis use formed the measure of decision-making skills. In addition, the Grade 7's were asked about their attitudes to various <u>frequencies</u> of use of the three drugs, using "good-bad" and "pleasant-unpleasant" rating scales. Inclusion of these attitude items was largely exploratory in nature, since the objectives of the program did not directly involve attitude change. However, within the Ajzen-Fishbein model, attitudinal components are an important variable in the overall decision regarding any particular action, and some insight into attitudinal components was thought to be potentially useful to the planning and development of future educational programs.

<u>Results</u>

Table 6 shows pre-test and post-test means on the drug knowledge scale for the experimental and comparison Grade 7's. On the pre-test, the comparison group scored slightly higher than the experimental group, 6.2

Table 6

DRUG KNOWLEDGE

	PRE-TEST MEAN		POST-TEST MEAN
EXPERIMENTAL	6.2	*	8.9
	*		*
COMPARISON	6.9		6.9

*'s between pairs indicate $p \leq .05$

versus 6.9 items correct of a maximum score of 16. These scores indicated that the initial levels of drug knowledge were quite low in both groups. The experimental group improved significantly on the post-test, with a mean score of 8.9, while the comparison group did not improve.

No significant differences were found in intentions to smoke cigarettes in any of the circumstances specified. Roughly 1 in 4 of the Grade 7's surveyed indicated some intention to smoke cigarettes in the 12 months after the survey (Table 7). The highest planned frequency reported was "with close friends", but on average the frequencies suggest that planned cigarette smoking is infrequent and peer oriented in nature.[2] The peer education program does not appear to have produced changes in planned smoking behavior.

There were no significant differences on intended frequencies of drinking between the experimental and comparison groups at pre-test or at post-test (Table 8). It is, however, of interest to note that the intended frequencies of drinking reported by the comparison group tend to rise from pre-test to post-test. For "drinking in general", the increase in intended frequency to drink (from about 5 times a year to 10 times a year) between the pre-test and post-test was statistically significant for the comparison group. Previous research (Casswell,1982) indicated that subjects tend to report higher intended or actual drug use on a post-test, simply as a result of the repeated test administration. The fact that the experiemental group's post-test did <u>not</u> indicate higher frequencies of intended alcohol use suggests that the peer education program reinforced low-frequency drinking.

[2] (This contrasts to findings about the Grade 11 peer drug educators. Their reported intentions to smoke when they were alone averaged just as high as their intentions to smoke when they were with their friends. Thus, between Grade 7 and Grade 11, cigarette smoking tends to shift from an essentially socially motivated behavior to one based more on a tobacco dependency.)

Table 7

INTENTIONS TO SMOKE CIGARETTES

	INTENDED FREQUENCY OF SMOKING			
SMOKING SITUATIONS	EXPERIMENTAL PRE	EXPERIMENTAL POST	COMPARISON PRE	COMPARISON POST
"IN GENERAL"	18.4	17.2	11.2	16.0
"BY MYSELF"	11.6	11.4	4.3	7.3
"WITH CLOSE FRIENDS"	18.7	17.8	10.6	13.1
"WITH PARENTS"	1.1	0.4	2.8	1.5
% INTENDING TO USE ANY CIGARETTES	24.9	23.6	28.6	24.3

Note: There were no significant differences in intended frequencies of smoking either at pre-test or at post-test within or between experimental or comparison groups.

Table 8

INTENTIONS TO DRINK ALCOHOL

INTENDED FREQUENCY OF DRINKING				
DRINKING SITUATIONS	EXPERIMENTAL PRE	EXPERIMENTAL POST	COMPARISON PRE	COMPARISON POST
"IN GENERAL"	6.4	6.8	4.7	10.3*
"BY MYSELF"	4.2	3.5	1.0	3.3
"WITH CLOSE FRIENDS"	6.4	4.2	3.1	5.7
"WITH PARENTS"	3.2	3.3	4.8	9.6
% INTENDING TO USE ANY ALCOHOL	56.6	60.2	52.2	58.0*

* Comparison group pre-post differences: $p \leq .02$

The overall percentage of Grade 7 students intending to use alcohol at all in their next 12 months was in the 50-60% range, with a statistically significant increase from 52-58% in the comparison group. Again, the lack of corresponding change in the experimental group indicates a modest positive program effect.

Intended use of marijuana is quite rare among Grade 7 students, although the difference in proportions intending any use at all over the 12 months after pre-testing was statistically significant (See Table 9). About 6% of the experimental Grade 7's and 2% of the comparison Grade 7's planned to use any marijuana in the next 12 months at pre-test. At post-test, both groups were identical, with about 4% reporting planned use. In the comparison group, the reported intentions to use marijuana "in general" increased from an average frequency of less than once in the next year at pre-test to 5.5 times in the next year at post-test. No such reporting occurred in the experimental group, once more suggesting that the peer education program was effective in supporting low-frequency use or, in fact, abstinence decisions.

Attitudes were measured on a "good-bad" and "pleasant-unpleasant" dimension for the three substances, tobacco, alcohol, and marijuana. Scores range from 1 for extremely positive to 7, for extremely negative. The scores presented in Table 10 indicate that both experimental and comparison groups hold very negative attitudes toward use of tobacco and cannabis, with a marginally less negative attitude toward alcohol use. The comparison group was more negative than the experimental group in considering tobacco unpleasant and, at pre-test, the comparison group thought alcohol use to be more unpleasant.

Table 9

INTENTIONS TO SMOKE MARIJUANA

	INTENDED FREQUENCY OF MARIJUANA USE			
MARIJUANA SITUATIONS	EXPERIMENTAL PRE	EXPERIMENTAL POST	COMPARISON PRE	COMPARISON POST
"IN GENERAL"	1.5	1.4	0.4	5.5 [1]
"BY MYSELF"	1.3	1.1	0.0	3.2
"WITH CLOSE FRIENDS"	2.8	1.2	0.4	3.3
% INTENDING TO USE ANY MARIJUANA	6.4 [2]	4.5	2.2 [2]	4.4

[1] Comparison group pre-test versus post-test differences: $p < .05$

[2] Pre-test difference in proportion intending to use marijuana at all is significant at $p \leq .02$

Table 10

ATTITUDE TOWARD DRUG USE
MEAN SCORES

DRUG	MEAN SCORE EXPERIMENTAL PRE	EXPERIMENTAL POST	COMPARISON PRE	COMPARISON POST
TOBACCO				
GOOD-BAD	6.1	6.2	6.4	6.4
PLEASANT-UNPLEASANT	5.9[1]	5.9[2]	6.3[1]	6.2[2]
ALCOHOL				
GOOD-BAD	5.9	5.8	6.1	5.9
PLEASANT-UNPLEASANT	5.5[3]	5.5	5.9[3]	5.7
MARIJUANA				
GOOD-BAD	6.7	6.7	6.8	6.8
PLEASANT-UNPLEASANT	6.5	6.5	6.6	6.6

[1] $p \leq .02$

[2] $p \leq .04$

[3] $p \leq .01$

Overall, the attitudes expressed toward the use of the various substances are so negative that it would be difficult for programs to have much more impact in this area. However, these negative attitudes do not preclude the intention to use these substances under various conditions as indicated by the earlier tabulations on intended behavior.

Discussion

The peer drug education program delivered to Grade 7 students was clearly successful in meeting the first of its objectives; namely, to improve drug knowledge. The basic knowledge level about drugs is improved significantly, although the post-test score of 8.9 out of a possible 16 indicates further room for improvement. Such improvement, in the authors' opinion, is most likely to come about as a result of further drug education efforts in later grades. In other words, the knowledge gains in Grade 7 should be reinforced and expanded by additional exposure.

Insofar as more accurate information supports effective decision-making, that objective was achieved as well. In addition, there are some indications that the program has some effect in maintaining low-frequency use or abstinence intentions among the experimental Grade 7's. In the comparison group, we saw pre-test to post-test increases in overall proportions intending alcohol use; in average frequency of intended alcohol use "in general"; and in average frequency of intended marijuana use "in general". The peer education program suppressed this re-test effect in the experimental group, supporting the conclusion that the program has an effect in reinforcing low-frequency use or abstinence intentions.

The attitude scales indicated strong "ceiling effects"; that is, the students in both experimental and comparison groups were so negative toward use of the three substances that possible change in a more negative direction was unlikely.

IV

CONCLUSIONS AND RECOMMENDATIONS

The chief purpose of this report was to summarize the body of information available to evaluate the effectiveness of the peer education phase of the Community Outreach Program. In the first chapter, the school responses to the program were described: School Boards, administrations, teachers and students respond very positively to peer education.

The high community acceptance of such a program, with many subsequent activities generated, is itself a highly beneficial outcome. Peer education programs generate a high level of interest in drug education and facilitate the formation of ongoing social networks between schools and among different components of the school system that promote additional work in the area.

In planning the formal evaluation projects, the authors were somewhat surprised at the very limited efforts to evaluate peer education programs. Smart et al (1976) report one controlled study of peer drug education, comparing Grade 9 students who had received six peer drug education sessions to a control group having received no sessions. Peer education produced knowledge gain but no attitude change.

Rozelle and Gonzalez (1979) reported some positive effects from a peer-facilitated course on alcohol abuse at a Florida University: students in the experimental group held more responsible attitudes, more alcohol knowledge and had fewer negative consequences from drinking.

In their review of 127 drug abuse prevention program evaluations, Schaps, et al (1981) were able to include 6 that were either parent-led or peer led. Although they did not find statistically significant

differences in the likelihood of positive outcome using these "intermediaries" as opposed to teachers or drug dependency workers, results were in a positive direction.

Turning to the specific effects of the Community Outreach Program's peer education, the most obvious effect, whether the participants were providers or recipients of peer drug education, was an increase in knowledge about drugs and the implications of using them. In recent years, drug educators, and, more generally, health educators, have displayed considerable ambivalence about the role of knowledge gain in bringing about healthful behavioral change. In his discussion of the literature on negative results of drug education, Goodstadt (1980:.93) notes that:

> "while many programs have demonstrated positive changes in knowledge, far fewer programs have been associated with positive attitudinal or behavioral changes ... Several programs have shown both knowledge improvements and negative behavioral or attitudinal effects."

While knowledge gain by itself may not be a sufficient condition to deem a drug education program successful, it does appear to be a necessary condition. Simply put, knowledge gain is an important component of success in school programs. A generally accepted value in our civilization is that it is better to know more, rather than less, about situations and substances which form part of our world, toward which we have responsibilities, or concerning which we must make decisions. We would not, for example, require that a unit in Canadian history be shown to result in wiser election of legislators before we judged it successful in meeting important educational goals. To show that the program improved the participants' knowledge of history would be acceptable, even though it might not be all for which we could wish.

In addition to increased knowledge, the peereducation program did have modest, but positive, results in maintaining the Grade 7 students' intentions to use alcohol and cannabis at low frequencies on average.

However, significant proportions of all Grade 7 students intend to at least try smoking cigarettes. The majority intend to drink at least sometimes before the group reaches an average age of 14. This certainly demonstrates the appropriateness of targetting drug education toward these young adolescents as an appropriate target group for education about these drugs.

Furthermore, the results indicate that the Grade 7 peer education program should be continued as a starting point for further drug education in each later grade. In other words, expansion of the peer education program should occur not only laterally, to include more Grade 7 students, but also vertically to include the subsequent grades. The peer education program in Grade 7 provides a knowledge base which will require reinforcement. The "small wins" of the program may be expanded into stronger, long-term effects with suitable follow-up programming. As well, programs in elementary grades, for students and their parents, may be useful in promoting a delay in the onset of drug use.

Such follow-up education should be geared to the evolving social contingencies adolescents encounter as they mature. The objectives of such follow-up should be clearly specified, and developed within an explicit model of the psycho-social dynamics of the program.

The concept of "decision-making skills" which played such an important role in the current program objectives has numerous disadvantages in program development because of its inherent ambiguity. That same lack of clarity inhibits program evaluation, not only here, but as reported by Moskowitz, et al (1984), to the effect that he and his group of distinguished drug education researchers were simply unable to measure decision-making skills.

While the concept of decision-making skills allows programs to appear to be relatively value-free, it inhibits the development of more explicit, unambiguous strategies for accomplishing the final ends of drug education. The definition of these ends itself represents a challenge in the strategic

planning of drug education programs, since there is not a consensus within our culture on, say, what constitutes acceptable levels of drug use. Legal proscriptions notwithstanding, there is in practice wide-spread acceptance of at least experimental drug use, as inevitable if not actually desirable. The development of a comprehensive drug education program would greatly benefit from a strategic plan to achieve specific outcomes related to positive and negative motivators for use of alcohol and other drugs.

Explicit recognition of outcomes unlikely to be achieved via educational programs would also be valuable, in that such programs would not then be burdened with tacit and unrealistic expectations on the part of various constituencies. In conclusion, we would recommend that the "decision-making skills" objectives be re-stated not only so their attainment will be more measurable, but also to increase the likelihood that they will be readily teachable.

The overall experience of the peer drug education program is positive. One extremely important outcome, perhaps the main advantage, of peer education is not only in the specific effects on individual students, but rather in the social system effects. Some of these are reflected in increased commitment to drug education by schools and a social climate within which there is greater optimism and community support for coming to grips with alcohol and other drug issues among young people.

Because of the increases in drug knowledge and because of the peer education program's reinforcement for non-use or low-frequency use intentions, it appears that the Grade 7 program can be considered a successful starting point. It would be a mistake, however, to assume that these positive effects would persist throughout later grades without

continued reinforcement.

In this connection, some have suggested that longitudinal follow-up research should be conducted with the peer educated Grade 7's. As indicated in earlier chapters, both peer educators and Grade 7's were post-tested immediately after the program. This procedure of administering the post-test without delay does not permit the detection of any delayed effects of the program. It is not impossible that "sleeper effects" might emerge later. On the other hand, the prompt administration of post-tests did not allow any decay of program effects to be manifest.

Further resolution on this issue could be obtained by including questions on drug education, and peer education specifically, in the next Halifax school survey, to be conducted in 1986 if the necessary arrangements can be made.

Our report concludes with a list of seven recommendations. Some have already been stated within the body of the report and are re-stated here for the reader's convenience.

Recommendation 1

The current practice of having peer educators about 3 years older than their audience should be continued. A small age gap produces too many difficulties in maintaining classroom order.

Recommendation 2

An additional "outreach" component could readily be added to the peer education program by sending a letter explaining the program home with the program recipients. In the program evaluated here, parents did receive notification because informed consent to the evaluation questionnaire was needed. Making an explanatory letter to parents part of the program could act to encourage further communication between parent and child.

Recommendation 3

The high level of interest and involvement by schools in peer education should be used to further encourage the development of drug education in later grades. The concept that drug education is not a "one-shot deal" but a continuing process could be central to this effort and is supported by the findings of this report.

Recommendation 4

The feasibility and effectiveness of drug education programs in elementary schools should be investigated. The results of this evaluation indicate that many students in Grade 7 have already decided to become alcohol users at a very early age. Earlier prevention efforts with elementary school children and their parents may be useful in encouraging a delay in the onset of drinking alcohol.

Recommendation 5

Further drug education programming should occur within an overall strategy that will assist in the clarification of desired, expected outcomes. The concept of decision-making skills is, by itself, insufficient to accomplish this.

Recommendation 6

The majority of Grade 7's intend to drink at least sometimes in their next year. Since drinking with parents on special occasions is a significant component of these intentions, we recommend that the parent education phase address the issue, with a view to encouraging the delay of onset of alcohol use by adolescents.

Recommendation 7

Because of the many spin-off effects of the current peer drug education program and its capacity to increase drug knowledge and to reinforce abstinence or "low-frequency use", such programs should be continued. Revisions of the "decision-making skill" objective to enhance program clarity would be the first step in maintaining a developmental, formative stance toward the program and encouraging further amelioration.

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